

# Document made available under the Patent Cooperation Treaty (PCT)

International application number: PCT/AU05/000474

International filing date: 31 March 2005 (31.03.2005)

Document type: Certified copy of priority document

Document details: Country/Office: AU  
Number: 2004907121  
Filing date: 15 December 2004 (15.12.2004)

Date of receipt at the International Bureau: 10 May 2005 (10.05.2005)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



World Intellectual Property Organization (WIPO) - Geneva, Switzerland  
Organisation Mondiale de la Propriété Intellectuelle (OMPI) - Genève, Suisse



PCT/AU2005/000474

Australian Government

Patent Office  
Canberra

I, LEANNE MYNOTT, MANAGER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2004907121 for a patent by SAM P COSTIN as filed on 15 December 2004.

I further certify that the name of the applicant has been amended to MODALCO PTY LTD pursuant to the provisions of Section 104 of the Patents Act 1990.

WITNESS my hand this  
Fifth day of May 2005

A handwritten signature in black ink, appearing to be 'LM' or 'Leanne Mynott'.

LEANNE MYNOTT  
MANAGER EXAMINATION SUPPORT  
AND SALES



2004907121 15 Dec 2004

The invention relates to improvements in retaining wall design and construction.

Retaining walls are usually constructed using reinforcements inserted into the compacted soil fill behind the face of the retaining wall. Such a method is cost effective and material efficient because it minimizes the mass and cost of the face and also uses the backfill as part of the retaining structure by way of the reinforcement. During construction the face is built and the reinforcement inserted into the face during said construction. This results in a large amount of the reinforcement laying behind the face. In practise this reinforcement becomes tangled, heavy to move and is damaged by other labour working in the area. One method of overcoming this problem is to backfill behind the wall face as it is constructed. This is not cost effective as it requires heavy blocks to prevent movement during compaction. Also, the blocklaying workers must stop work during this process.

These problems are overcome by the present invention by incorporating short and separate reinforcements into the face of the retaining wall and laying additional and separate and interlocking reinforcement in the soil fill behind the wall during backfilling. Hence, the retaining wall face may be constructed in one continuous stage and the entire wall backfilled afterwards.

In one form of the invention the retaining wall consists of strips of reinforcement inserted into the blocks comprising the face said reinforcements protruding from the face to be incorporated into the compacted soil fill behind the face wall and a plurality of separate reinforcement strips overlapping said protruding strips from the face and embedded into the soil behind the wall face for a distance sufficient to provide structural stability to the combined mass of the retaining wall face incorporating the protruding strips and the separate strip reinforced soil behind the wall face.

In another form of the invention the retaining wall consists of mats of reinforcement inserted into the blocks comprising the face said reinforcements protruding from the face to be incorporated into the compacted soil fill behind the face wall and a plurality of separate reinforcement strips overlapping said protruding mats from the face and embedded into the soil behind the wall face for a distance sufficient to provide structural stability to the combined mass of the retaining wall face incorporating the protruding strips and the separate strip reinforced soil behind the wall face.

In another form of the invention the retaining wall consists of mats of reinforcement inserted into the blocks comprising the face said reinforcements protruding from the face to be incorporated into the compacted soil fill behind the face wall and a plurality of separate reinforcement mats overlapping said protruding mats from the face and embedded into the soil behind the wall face for a distance sufficient to provide structural stability to the combined mass of the retaining wall face incorporating the protruding strips and the separate strip reinforced soil behind the wall face.

In another form of the invention the retaining wall consists of strips of reinforcement inserted into the blocks comprising the face said reinforcements protruding from the face

2004907121 15 Dec 2004

to be incorporated into the compacted soil fill behind the face wall and a plurality of separate reinforcement mats overlapping said protruding strips from the face and embedded into the soil behind the wall face for a distance sufficient to provide structural stability to the combined mass of the retaining wall face incorporating the protruding strips and the separate strip reinforced soil behind the wall face.

To assist with understanding the invention reference will now be made to the accompanying drawing:

The retaining wall is constructed by laying the face wall blocks (1) on top of each other to form layers. The strip of reinforcement (2) is laid between the blocks during construction. The blocks in the example are hollow and the strip looped through the cavity of the block(s) as is the art described in a previous patent specification of Costin. The wall is completed in this manner when all the necessary blocks with inserted strips have been stacked to form a wall face (3).

A layer of reinforcing strips (4) are laid behind the wall such that they interlock with the strips protruding from the face. The soil is filled in a layer to the next layer of protruding strips and compacted over and around the separate inserted strip. The process is repeated until the backfill (5) achieves the desired height behind the face.

It will be realised that the improved retaining wall according to the this invention is not restricted to the amount and dimensions of the strips that will change depending upon the load placed on the completed retaining wall. Also, the reinforcement may consist of a combination of strips and or mats of reinforcement. Also, the strips or mat may be placed within each block during construction of the block and the resulting unit stacked to comprise a wall or the wall inserted reinforcement may be inserted between the blocks during stacking said stacking may or may not involve the use of cement mortar.

SAM PATRICK COSTIN

DECEMBER 14 2004

$$\frac{VC}{E} = E$$

TK

2004907121 15 Dec 2004

